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# **Adaptations and Accommodations: The use of the WAIS III with people with a learning disability**

This is the authors' version of the paper, which was published as:  
McKenzie, K., Murray, G.C., & Wright, J. (2004) Adaptations and accommodations: The use of the WAIS III with people with a Learning Disability. *Clinical Psychology*, 43, 23-26.

## **Introduction**

Evidence of significant impairment in cognitive functioning has always been one of the main criteria of a learning disability (Pulsifer, 1996) and intellectual assessment is, therefore, one of the tasks of clinical psychologists working within learning disability services. Such assessments are commonly used to help establish of an individual's cognitive strengths and weaknesses, support needs and more specifically, to help determine if an individual falls within the remit of learning disability services (McKenzie & Murray, 2002, Evers & Hill, 1999). Intellectual assessments also have important implications in terms of mental health legislation, accessing benefits and services and informing legal decision-making processes (British Psychological Society, 2001, McKay, 1991). It is, therefore, crucial that the assessments are valid, reliable and used only by appropriately trained and qualified professionals. In Britain, it is emphasised that assessing an individual's intellectual functioning requires an individually administered, standardised psychometric assessment which is reliable and valid (British Psychological Society, 2001), while in America professional mandates, such as the Standards for Educational and Psychological Testing (AERA, APA & NCME, 1985) highlight the need for high standards of administrative accuracy from psychologists.

The Wechsler Adult Intelligence Scales - Third Edition (Wechsler, 1998) are commonly used in intellectual and neuropsychological assessment and are considered to be valid, reliable and well-standardised (Groth-Marnat et al, 2000). The Wechsler Scales have a

long history and have undergone a number of revisions with the most recent being in 1997 with the development of the Wechsler Adult Intelligence Scale-Third Edition (WAIS-III). The purpose of these revisions was to insure that the standardisation sample was representative of current demographics and performance, to update the subtests, incorporate new subtests, and refine the instructions and test materials. Each revision has been well researched and validated (Groth Marnat et al, 2000).

The administration and scoring instructions for the all of the versions of the Wechsler Scales, including the WAIS III, are generally clear, objective, standardised and illustrated by examples. It is advocated in the Wechsler assessment manuals that administration and scoring procedures should be adhered to as closely as possible to maintain the validity and reliability of the test being used. Despite this, research has indicated that both experienced and trainee psychologists make a relatively high number of administrative and clerical errors. (Moon et al. 1991, Slate et al, 1992). Importantly, many of these errors have been shown to have had an impact on the individual's overall IQ, most commonly by over-inflating it (Slate et al., 1991). There has also been research examining the impact of changing the standardised instructions. Thompson & Bulow (1994) looked at the impact of different methods of presenting the blocks in the Block Design subtest of the WAIS-R. They found that changing the method of presentation had no impact on individual's scores. In contrast, Joncas and Standing (1998) investigated the benefits of precise versus general wording in test instructions. They found that scores were raised by 47% under more explicit instructions than the standard instructions.

There is, however, relatively little research examining the administration changes that clinicians make in order to use the WAIS III with people with a learning disability, yet clinical experience suggests that the standardisation procedures may be altered when working with this client group. Groth Marnat et al (2000) note that such changes may be required when working with neuropsychologically impaired people. They suggest that the clinician may have to carry out the assessment over multiple sessions, modify instructions or present items in non-standard ways according to the type of impairment

the individual has. They note that while this may increase an individual's motivation to participate in the assessment and provide more clinically valid information, it may undermine the validity of the person's scores relative to the standardisation sample of the assessment.

The clinician is, therefore, left with little guidance from the literature to help make informed decisions concerning modifications that deviate from the standardised way of administering the WAIS III. Each practitioner is left to make his or her own judgements on making test modifications and of how to interpret the results after such changes have been made. Hishinuma (1998) offers a summary of some possible test modifications when using standardised tests with individuals with disabilities. He notes, however, that these are only suggestions and that each area requires to be examined in terms of the impact it would have on test scores.

It is also unclear to what extent individual clinicians are, in fact, making deliberate modifications whilst administering the WAIS III to people with a learning disability. The aim of the present paper was, therefore, to explore the way the WAIS III is currently administered by clinicians working in Learning Disability Services in Scotland when assessing individuals with a learning disability.

## **Method**

This was a self-report study, consisting of postal questionnaires which asked the following:

- How long have you worked in learning disability services?
- Do you use or have you previously used the WAIS III?
- If so, how useful do you find it? This was measured on a scale of 0 to 10, with 0 equalling not useful at all and 10 equalling very useful.
- Do you follow the instructions exactly as written in the manual when assessing a person with a learning disability?
- If yes, do you find any difficulties with this?
- If no, please note the types of change you make for each subtest.
- Do you miss out any of the sub-tests on a regular basis?
- If yes, please note which ones and the reasons why
- Any other comments.

Participants were provided with a table listing all of the subtests, to be completed in relation to each relevant question. All responses were anonymous.

Forty-three questionnaires were sent out to qualified clinical psychologists working in learning disability services in Scotland. Twenty-four were returned, giving a response rate of 56%. The amount of experience respondents had working in Learning Disability Services ranged from 2 to 30 years, with a mean of 11.58 (SD=7.16).

## **Results**

All 24 respondents said that they currently, or had previously used the Wechsler Adult Intelligence Scale – 3<sup>rd</sup> Edition, (WAIS III). Seventy-nine percent used the WAIS III at least every three months while 31% used it every 6-12 months. In terms of usefulness, the minimum score was 3, the maximum was 10 and the mean was 6.75 (SD = 2.34). Eighty-three percent of respondents rated the usefulness of the WAIS III at 5 or above, indicating that it was considered to be a useful to very useful assessment.

### **Omitting Subtests**

Over 75% of respondents reported that they regularly missed out subtests. Four subtests were identified. Table 1 shows the number and percentage of respondents who reported omitting each subtest and some of the reasons given for this.

**Table 1: the number and percentage of respondents who reported omitting each subtest and some of the reasons given for this.**

<b>Test</b>	<b>Number</b>	<b>Percentage</b>	<b>Reason</b>
<b>Object Assembly</b>	12	50	Optional test- Not part of calculation of IQ or index score. Too time-consuming.
<b>Letter-Number Sequencing</b>	4	16.7	Speed/time. Check first if client knows alphabet Don't omit it often, but find it ridiculously hard to explain and administer – if clients knew what they were expected to do, they might be able to have a go.
<b>Symbol Search</b>	1	4.2	If person is not particularly able/willing, sometimes omit 'optional' subtests. Also for speed/time.



<b>Picture Arrangement</b>	1	4.2	Time Constraints
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A Cochran's Q test found a significant difference between the sub-tests in terms of the likelihood of being omitted  $Q=114.873$ ,  $df=13$ ,  $p<0.0001$ . The Binominal test found that the Object Assembly sub-test was significantly more likely to be omitted than any of the other sub-tests, ( $n=24$ ,  $p<0.0001$ ), with the exception of Picture Arrangement, Symbol Search and Letter-Number Sequencing.

### **Administering/Presenting Sub-tests**

When asked about administering the WAIS III, 83.3% of respondents said that they did not follow the standardised instructions in the WAIS III manual **exactly**.

Table 2 illustrates the number and percentage of respondents making each type of change in relation to each of the WAIS III subtests. As 75% of respondents regularly missed out at least 1 subtest, percentages are calculated in respect of number of respondents.

**Table 2: The number and percentage of respondents making each type of change in relation to each of the WAIS III subtests.**

Test	Change language (e.g. simplify, make more concrete)		Do not use strict timings		Change order of presentation of items		Don't always follow discontinue rule exactly as specified		Give additional instructions, clarification or praise	
	No.	%	No.	%	No.	%	No.	%	No.	%
<b>Picture Completion</b>	12	50	4	16.7	1	4.2	4	16.7	13	54.2
<b>Vocabulary</b>	11	45.8	3	12.5	1	4.2	5	20.8	12	50
<b>Digit-Symbol Coding</b>	15	62.5	3	12.5	1	4.2	1	4.2	12	50
<b>Similarities</b>	13	54.2	3	12.5	1	4.2	3	12.5	14	58.3
<b>Block Design</b>	11	45.8	4	16.7	1	4.2	5	20.8	14	58.2
<b>Arithmetic</b>	10	41.7	4	16.7	2	8.3	3	12.5	13	54.2
<b>Matrix reasoning</b>	13	54.2	3	12.5	1	4.2	2	8.3	13	54.2
<b>Digit Span</b>	11	45.8	3	12.5	1	4.2	1	4.2	13	54.2

<b>Information</b>	8	33.3	3	12.5	1	4.2	2	8.3	11	45.8
<b>Picture Arrangement</b>	13	60.9	5	21.7	1	4.3	3	13	13	56.5
<b>Comprehension</b>	8	33.3	3	12.5	2	8.3	1	4.2	13	54.2
<b>Symbol search</b>	14	60.9	2	8.7	1	4.3	2	8.7	13	56.5
<b>Letter Number Sequencing</b>	13	65	2	10	1	5	2	10	12	60
<b>Object Assembly</b>	7	58.3	3	25	1	8.3	1	8.3	8	66.7

A Cochran's Q test was used to examine if any one sub-test was significantly more likely to be used in a non-standardised way than the others. When an adjustment was made to allow for multiple comparisons, no significant differences between the tests were found.

### **Experience and Responses**

The relationship between respondent's experience of working in learning disability services and their rating of the usefulness of the WAIS III was examined. No significant relationship was found. Similarly, no relationship was found between experience and total of number of changes that respondent's made to the WAIS III administration.

### **Discussion**

The present study examined the extent to which qualified clinical psychologists working in learning disability services in Scotland altered the way in which the WAIS III was administered. All of the psychologists who participated had experience of using the WAIS III and over 75% used it at least every three months. The psychologists were also

relatively experienced, with the least experienced having worked in learning disability services for 2 years and the mean experience being over 11 years. The WAIS III was rated as useful by the majority of psychologists. This suggests then that an experienced group of clinical psychologists are using an assessment tool which they view as useful on a regular basis.

Not all of the subtests appeared to be viewed as equally useful, however, as half of the clinical psychologists routinely missed the Object Assembly subtest. The main reason for this was that the score was not used to calculate any of the IQ or index scores. A few psychologists also missed out Letter-Number Sequencing because they found that often the clients would not know the alphabet or could not understand the instructions.

Difficulty in understanding instructions was a theme which was repeated in relation to the extent to which clinical psychologists presented the WAIS III items in the standardised way. Over 80% of the psychologists noted that they consciously changed the way in which they administered the WAIS III in relation to clients with a learning disability. The psychologists were most likely to change the way that instructions were worded e.g. to simplify for the clients or to give additional instructions, clarification or praise. This may reflect a pragmatic realisation that people with a learning disability, in general, have been found to have language skills that are poorer than non-verbal skills (Clements, 1987). If the individual does not understand the instructions for a test of working memory or processing speed then the psychologist will be unable to measure these constructs and the whole of the WAIS III may simply become an assessment of verbal comprehension. As a participant kindly cited from Williams (1965, pg xvii) on the questionnaire 'The same

words do not necessarily mean the same thing to different people and it is the *meaning of the instructions* which should be the same for all people, rather than the wording.’

Participants were equally as likely to change the presentation of any of the subtests in the WAIS III and those with more experience were equally as likely to do so as those with less experience.

While this may be a legitimate means for clinical psychologists to ensure that the assessment they are using measures what it purports to, and not just, for example, verbal comprehension, we are left with some uncertainty about what impact this departure from standardised use is having on the assessment. Early studies of the impact of praise on the scores of children with a learning disability on the Wechsler Intelligence Scales for Children (Revised) (Wechsler, 1974) found that these were significantly higher when the students received praise (Saigh, 1981). This was also found to be the case for children without a learning disability (Witmer et al, 1971). A more recent study by Joncas and Standing (1998) examined the impact of precise versus general wording in test instructions and found that scores were increased by nearly 50% if standard instructions were not used.

The above research suggests that changing the administration of the WAIS III may be resulting in increased scores for the clients being assessed in this way. As clinicians working within learning disability services, psychologists would appear to have reached an informal consensus that this is an acceptable way of working. As one participant

noted ‘I would suggest that any psychologist who adheres rigidly to standardised test instructions in administering the WAIS is probably getting invalid test results.’ While this may be clinically valid, the above research would suggest that comparisons with the standardisation sample may not be valid. This has implications if the assessment is being used to help determine an individual’s rights to benefits or services, to help inform decisions about capacity or within a legal context.

It is a requirement that those who use the WAIS III are registered users and, in Britain, this means that you must be a qualified and trained applied psychologist. These stringent conditions correctly reflect the fact that the results of intellectual assessments can be misused or misinterpreted by those who are unfamiliar with issues such as reliability, validity and interpretation. Clinical psychologists have a total training period which can extend to seven years which should ensure that we are confident in these areas and aware of the impact that changes in test presentation may have on the results that we obtain. The present study focused on experienced qualified clinical psychologists who were making conscious decisions to amend the way in which they presented WAIS III to obtain a more clinically valid result. Unfortunately the research on which we could confidently base our decisions, or judge the likely impact of them, is missing.

While the present study was small, it included over half of the qualified clinical psychologists known to work in learning disability services in Scotland. One interpretation of the results may be that they are specific to this group. It may be that our colleagues who did not participate in the present study, who work in the rest of Britain or

work in other specialties follow the standardised instructions of the WAIS III. Further research would help clarify this. More importantly, further research is required to examine exactly what impact changing test administration has on test results. The results do suggest that we require some consensus and guidance from our profession in relation to this important issue.

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